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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,694	01/19/2007	Adam John Walker	051922-408167	2909
27148 7590 02/17/2011 POL SINELLI SHUGHART PC 700 W. 47TH STREET SUITE 1000 KANSAS CITY, MO 64112-1802			EXAMINER MC GINTY, DOUGLAS J	
			ART UNIT 1765	PAPER NUMBER
			NOTIFICATION DATE 02/17/2011	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspt@polsinelli.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/599,694	<b>Applicant(s)</b> WALKER, ADAM JOHN	
	<b>Examiner</b> DOUGLAS MC GINTY	<b>Art Unit</b> 1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 57,58 and 62-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 57,58 and 62-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Prosecution***

The Petition to Revive under 37 CFR 1.137(b) has been granted.

The species N,N-dimethylethanolammonium formate has been elected. The pending claims are examined to the extent they read on that species.

The Claim Objections have been withdrawn.

The rejection under 35 USC 102/103 over CAS reg. no. 59101-30-3 has been withdrawn.

The rejection under 35 U.S.C. 103(a) as being unpatentable over Rogier (US 2003/0232844) has been maintained and applied to the amended and newly added claims.

### ***Claim Rejections - 35 USC § 103***

Claims 57, 58, and 62-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rogier (US 2003/0232844).

Rogier teaches salts including, *inter alia*, a base (cation source) such as 2-dimethylaminoethanol (N,N-dimethylethanolamine) and acid (anion source) such as formic acid [0627]. Together, that base and acid form the salt dimethylethanolamine formate (N,N-dimethylethanolammonium formate). Rogier also does not require the presence of water [0623]. The salt may be made by conventional means such as reacting the base or acid [0627]. The reference teaches application of an enzyme such as a protease on a substrate [0030]. It is well known that the protease enzyme catalyzes a reaction with protein.

Rogier does not appear to expressly state that the composition is an ionic liquid, exemplify the salt dimethylethanolamine formate (N,N-dimethylethanolammonium formate), or teach a mp of  $< 25^{\circ}\text{C}$  and a water content of  $< 1\%$ .

Still, the present claims would have been obvious in view of the teachings of Rogier because it teaches both the cation and anion from a limited number of choices for use in compositions for applying an enzyme to a substrate. Obviousness only requires a reasonable expectation of success. *In re O'Farrell*, 853 F.2d 894, 904 (Fed. Cir. 1988). See also, MPEP 2143.02. Where the composition would have been obvious, the properties thereof would have been prima facie obvious as well. MPEP 2112.01.

### ***Response to Arguments***

The Amendment and Response filed December 18, 2009 have been carefully considered and found to be persuasive in part. See the above Status of Prosecution.

With respect to the rejection under 35 USC 103 over Rogier, the applicants appear to argue that Rogier does not disclose or suggest using an ionic liquid as a solvent in an enzyme-catalyzed reaction, but rather, the reference merely discloses a metallomatrix protease as a type of anti-neoplastic agent. As discussed in the previous Office Action and repeated above, however, the reference teaches the use of proteases [0030]. The applicants do not appear to challenge the previous observation that it is well-known that the protease enzyme catalyzes a reaction with a protein.

The applicants assert that Rogier does not disclose or suggest using an ionic liquid such as N,N-dimethylethanolammonium formate as a solvent in a protease-

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catalyzed reaction. Still, the reference teaches salts such as those made from a base (cation source) such as 2-dimethylaminoethanol (N,N-dimethylethanolamine) and acid (anion source) such as formic acid, among others [0627], which together form the salt dimethylethanolamine formate (N,N-dimethylethanolammonium formate). Thus, it would have been obvious to combine the cation and anion to form the salt of N,N-dimethylethanolammonium formate.

The applicants urge that the Rogier does not teach or suggest using ionic liquids as solvents. Nevertheless, the reference teaches the salts which may include dimethylethanolamine formate (N,N-dimethylethanolammonium formate). The salts may be part of a solution [0623, 0717]. Being the same as suggested in the prior art, the salt would have been expected to have the same properties, including that of being an "ionic liquid". MPEP 2112.01, II.

The applicants further argue that dependent claims 62-70 would have been novel and non-obvious for the same reasons as for independent claims 57 and 58. As discussed above, however, claims 57 and 58 have been found to be obvious.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS MC GINTY whose telephone number is (571)272-1029. The examiner can normally be reached on M-F, 830-500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DOUGLAS MC GINTY/  
Primary Examiner, Art Unit 1796